

### ABSTRACT OF DISCLOSURE

~~A polymer solid electrolyte type fuel cell is provided capable of preventing chemical deterioration of fuel cell constituent materials such as an ion exchange membrane and the like.~~

~~An internal electrode 2 is provided in an electrolyte 4 made of a proton conductor, a voltage application means 5 is provided between the internal electrode 2 and one of a fuel electrode 3 and an oxidizer electrode 1. Applying voltage to the internal electrode 2 makes it possible to control fuel and/or oxidizer movements in the electrolyte 4, thereby suppressing or restricting the possible deterioration of the electrolyte 4.~~

A polymer solid electrolyte type fuel cell includes an internal electrode in an ion exchange membrane made of a proton conductor, a voltage application device provided between the internal electrode and one of a fuel electrode and an oxidizer electrode. Applying voltage to the internal electrode makes it possible to control fuel and/or oxidizer movements in the electrolyte.